

Clinical Outcomes Following Surgical Management of Coexistent Parkinson's Disease and Cervical Spondylotic Myelopathy

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Introduction

Coexisting Parkinson's disease (PD) and cervical spondylotic myelopathy (CSM) present challenges for diagnosis and treatment due to similarities in presentation and disease progression. No studies have investigated the outcomes following cervical decompression for this population. The purpose of this study was to define the presenting features of patients with PD and CSM and to investigate their outcomes following surgery.

Methods

A matched cohort-controlled retrospective review of patients diagnosed with coexisting PD and CSM undergoing cervical decompression surgery between 1/1996 and 12/2013 at a tertiary-care institution was conducted. PD patients were matched to controls by age, gender, ASA classification, and operation parameters. Change in severity of myelopathy was measured using the Nurick scale (increases indicate greater severity) and the modified Japanese Orthopaedic Association (mJOA, decreases indicate greater severity) classification of disability. Multivariable regression was used to identify independent predictors of change in mJOA and relief of myelopathy.

Results

Forty-two patients were reviewed with 21 matched pairs. Mean age was 67 and 66 for the PD and control groups, respectively. Mean duration of symptoms was 13.4 months for PD patients and 9.4 months for control patients.

Postoperative symptoms improved in both groups, though back pain, radiculopathy, and bowel/bladder dysfunction were more common in PD patients. PD patients suffered more severe myelopathy before and after surgery with poorer improvement measured by change in the Nurick (0.0 v. -1.0, $p < 0.01$) and mJOA (0.9 v. 2.5, $p < 0.01$) scales. Multivariable regression revealed PD as a significant independent predictor of decreased improvement in mJOA ($\beta = -0.93$, $p < 0.01$) and failure to achieve relief of myelopathy (OR 0.10, $p = 0.04$).

Conclusions

This study is the first to characterize the outcomes of decompression surgery for patients with coexisting PD and CSM. PD patients improve after surgery, although less than those without PD. Surgery should still be considered, with PD patients counseled for potentially diminished outcomes.

Learning Objectives

By the conclusion of this session, participants should be able to:

- 1) Describe the importance of improvement in severity of myelopathy and symptomatology in patients with coexisting PD and CSM following cervical decompression surgery.
- 2) Discuss, in small groups, strategies to identify CSM among patients with PD at an earlier stage to minimize deterioration and allow for greater outcomes with cervical decompression surgery.
- 3) Identify an effective treatment in cervical decompression surgery to treat patients with coexisting PD and CSM.

References

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